

REMARKS/ARGUMENTS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 25-48 are pending in the present application, Claims 25, 26, 28, 30, 34, 36, 45, and 46 having been amended, and Claims 27 and 35-48 are withdrawn. Support for amendments to Claims 25, 26, 28, 30, 34, 36, 45, and 46 is believed to be self-evident from the originally filed specification.¹ Applicant respectfully submits that no new matter is added.

In the outstanding Office Action, Claim 28 was rejected under 35 U.S.C. § 112, second paragraph; Claims 25 and 26 were rejected under 35 U.S.C. § 102(b) as anticipated by Solgard (U.S. Patent No. 6,097,859); Claim 28 was rejected under 35 U.S.C. § 103(a) as unpatentable over Solgard; and Claims 29-34 were rejected under 35 U.S.C. § 103(a) as unpatentable over Solgard in view of Ma (U.S. Patent No. 7,236,660).

With respect to the rejection of Claim 28 under 35 U.S.C. § 112, second paragraph, the language noted by the Office at page 2 of the Office Action is deleted. Accordingly, this ground of rejection is believed to be overcome.

With respect to the rejection of Claim 25 as anticipated by Solgard, Applicant respectfully submits that the amendment to Claim 25 overcomes this ground of rejection.

Amended Claim 25 recites, *inter alia*,

selection means including at least one selection element configured to select a single optical channel from among a set of at least two optical channels of the first optical lines or second optical lines and not any other optical channel of the set, the optical channels of the set having a same rank, the selection element including at least one deviation element associated with at least one deflection element configured to assume plural angular positions, the selection of the single optical channel being

¹ For example, see Figs. 2A-2C, and 4B, and their corresponding description in the specification.

made according to an angular position of the deflection element; and

connection means for coupling the selected single optical channel to one of the channels of the second optical lines or of the first optical lines respectively, so that the light beam of the selected single optical channel only reaches one of the optical channels of the second optical lines or of the first optical lines.

Solgard does not disclose or suggest every element of Claim 25.

Solgard describes a multi-wavelength cross-connect optical switch. Solgard states:

In this switch 10, the wavelength channels 12a, 12b, 12c of three input fibers 14a, 14b, 14c are collimated and spatially dispersed by a first (or input) diffraction grating-lens system 16. *The grating-lens system 16 separates the wavelength channels in a direction perpendicular to the plane of the paper, and the dispersed wavelength channels are then focused onto a corresponding layer 18a, 18b, 18c of a spatial micromechanical switching matrix 20. The spatially reorganized wavelength channels are finally collimated and recombined by a second (or output) diffraction grating-lens system 22 onto three output fibers 24a, 24b, 24c.*²

Rather than select a single optical channel, the above-noted paragraph of Solgard describes how the diffraction gratings separate wavelength channels, which is not the same as selecting a single wavelength channel (and not selecting any of the other optical channels in the set) according to an angular position of a deflection element.

Page 3 of the Office Action takes the position that diffraction gratings 16 and 22, along with layers 18a, 18b, and 18c of Solgard, equate to the claimed “selecting means.” However, elements 16, 22, 18a, 18b, and 18c of Solgard do not equate to a selection element that selects a single optical channel from among a set of at least two optical channels of the first optical lines or second optical lines. In Solgard, there is no selection of a single wavelength channel (12a, 12b, or 12c). The diffraction gratings 16 and 22 do not select a

² Solgard, col. 3, lines 58-65.

single wavelength channel (12a, 12b, or 12c). Rather, they merely separate the wavelength channels.

Each of layers 18a, 18b, and 18c of the switching matrix does not select only a single optical channel. Each layer includes six micro mirrors 46a to 46f arranged in two columns 48a and 48b. They can be individually controlled so as to optically “couple” any of the three input fibers 14a, 14b, and 14c to any of the three output fibers 24a, 24b, and 24c.³

Fig. 2 of Solgard illustrates layer 18a. Any incident light beam among three possible incident light beams is deviated and can take at the output any position among three possible output positions. There is no particular position of the micro mirrors that selects only a single optical channel of a set and does not select any other optical channel of the set.

The six micro mirrors of Solgard do not allow the selection of a single optical channel from among a set of at least two optical channels. Fig. 4 of Solgard shows the maximum deflection angle α .⁴ Even at a maximum deflection angle, Solgard still transmits all the light beams for the optical channels 12a, 12b, and 12c as the light beam that reaches micro mirror 56a is inevitably deviated towards a micro-mirror 56b.

Thus, Solgard does not disclose or suggest at least the claimed “selection means including at least one selection element configured to select a single optical channel from among a set of at least two optical channels of the first optical lines or second optical lines and not any other optical channel of the set, the optical channels of the set having a same rank, the selection element including at least one deviation element associated with at least one deflection element configured to assume plural angular positions, the selection of the single optical channel being made according to an angular position of the deflection element.”

³ Solgard, col. 4, lines 8-15.

⁴ Solgrad, col. 4, lines 45-47.

In view of the above-noted distinctions, Applicant respectfully submits that amended Claim 1 (and any claims dependent thereon) patentably distinguish over Solgard.

Addressing each of the further rejections, each of the further rejections is also traversed by the present response as no teachings in any of the further cited references to Ma can overcome the above-noted deficiencies of Solgard. In particular, Ma does not disclose the claimed “selection means including at least one selection element configured to select a single optical channel from among a set of at least two optical channels of the first optical lines or second optical lines and not any other optical channel of the set, the optical channels of the set having a same rank, the selection element including at least one deviation element associated with at least one deflection element configured to assume plural angular positions, the selection of the single optical channel being made according to an angular position of the deflection element.” The deflection elements (114, 124) of Ma are not mobile and are fixed. The scanner chips (116, 126) use moveable micro mirrors to direct or redirect an optical beam toward and output fiber 120.⁵ In module 102b, the two light beams 203, 205 are directed toward module 104a and 104b, respectively. The mirror 114 and scanner chip 116 of module 102b are not used to select only one light beam chosen between light beams 203 and 205.

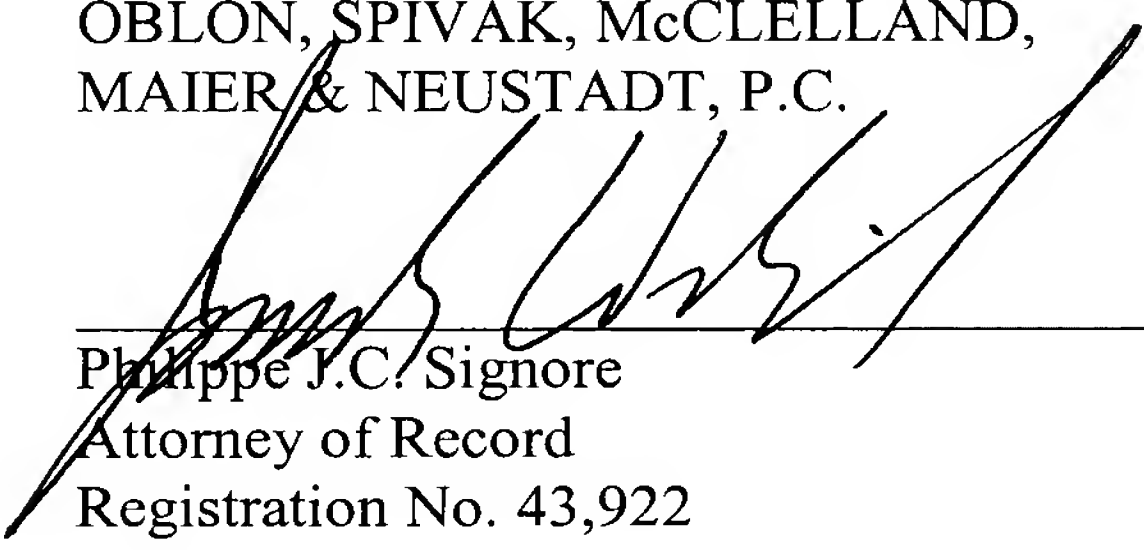
Moreover, withdrawn Claims 35-46 depend directly or indirectly from Claim 25. Thus, Claims 35-46 should be rejoined and allowed with Claims 35-46.

⁵ Ma, fig. 3b.

Consequently, in light of the above discussion and in view of the present amendment, the present application is believed to be in condition for allowance and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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